

REMARKS

The application is believed to be in condition for allowance because the claims are novel and non-obvious over the cited art. The following paragraphs provide the justification for these beliefs. In view of the following reasoning for allowance, the applicants hereby respectfully request further examination and reconsideration of the subject application.

Request for Examiner Interview

The applicants request an Interview with Examiner Yoder and Examiner Tuan Ho prior to a Response to the After Final Response being issued.

Response to Arguments

The Final Office Action stated that the applicants arguments were considered but were not considered persuasive. The Examiner argues that the applicants' claimed virtual director is taught. However, the Examiner ignores the specific claim language called out in the claims which is not taught in the cited art.

The Examiner states that the same virtual director as the applicants claim is taught in Tai in FIGs. 2 and 6, Col. 3, line 26-col. 4, line 8 and Col. 6, line 52-Col. 7, line 17), but these passages make no mention of the positioning of a speaker (person speaking) in images captured by the cameras, nor do these passages mention the ability to track a speaker in the images while determining which camera to use. The Examiner at page 4 of the Final Office Action states that the the camera view in Tai is selected based on the use of the audio signals detected from multiple microphones, "and is considered to detect the position of the user based on the audio scores at each microphone...the levels are each microphone are used to determine which microphone is closest to the position of the user." But this argument totally ignores the applicants claim language regarding determining if a

person is speaking and being able to track the person in images. Determining the position of a microphone by the level of audio is not the same as the applicants claim language of,

“a virtual director that automatically determines which view of said multiple cameras of different types to display, wherein said virtual director determines which camera view to display by:

_____ determining if a person is speaking and facing toward a display that displays at least one remote event participant, and if so using a camera view captured by said remote camera to display;

_____ determining if a person is talking and the presenter view camera can track them, and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and

_____ else, using a camera view captured by said 360-degree camera to display...”

or,

“...a virtual director that automatically determines which view of said 360 degree camera, whiteboard camera or presenter camera to display and switches to the determined view of the associated camera to display a view of one of said different sub-events, wherein said virtual director determines which camera view to display by:

_____ determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and

_____ else, using a camera view captured by said 360-degree camera to display...”

Or,

“a virtual director that automatically determines which of said multiple cameras of different types to display based on the position of a person speaking and the ability to track a person speaking in the captured images and audio signals received and switches between said multiple cameras of different types to display a view of one of said different sub-events”

Or,

“...automatically selecting which of the captured sub-events to transmit based on the position of a person speaking and the ability to track a person speaking in the captured images of the different sub-events and the captured audio associated with the different sub-events...”

Or,

“a virtual director that automatically determines which view of said 360 degree camera, whiteboard view camera and presenter view camera to display based on determining if a person is speaking and is

positioned in a certain manner relative to one of the cameras and the ability to track the person speaking." (emphasis added)

The applicants further point out that the applicants are not arguing the references individually, but are pointing out that since none of the references teach the element of the applicants' claimed virtual director, the combination cannot teach it.

The applicants provide more detailed arguments below.

The 35 USC 103 Rejection of 1, 2, 9-12, 14-17, 19-21 and 58-61.

Claims 1, 2, 9-12, 14-17, 19-21 and 55-61 were rejected under 35 USC 103(a) as being unpatentable over Konopka et al, U.S. Patent No. 5,850,250, herein after referred to as Konopka, in view of Tai et al. (U.S. Patent No. 6,577,333) (herein after referred to as Tai) and in further view of Taylor, U.S. Patent No. 7,113,201(herein after Taylor) and in further view of Liu (U.S. Patent No. 6,839,067). The Office Action stated that Konopka, Taylor and Liu teach the applicants' claimed invention, but do not teach the applicants' claimed virtual director or that the server also captures the sub-events in addition to broadcasting the captured sub-events. However, the Examiner further contended that Tai teaches this feature, rendering the applicants' claimed invention obvious. The applicants respectfully disagree this contention of obviousness.

In order to deem the applicants' claimed invention unpatentable under 35 USC 103, a prima facie showing of obviousness must be made. To make a prima facie showing of obviousness, all of the claimed elements of an applicant's invention must be considered, especially when they are missing from the prior art. If a claimed element is not taught in the prior art and has advantages not appreciated by the prior art, then no prima facie case of obviousness exists. The Federal Circuit court has stated that it was error not to distinguish claims over a combination of prior art references where a material limitation in the claimed system and its purpose was not taught therein (*In Re Fine*, 837 F.2d 107, 5 USPQ2d 1596 (Fed. Cir. 1988)).

The applicants claim...

"An automated system for capturing and viewing an event having event participants, comprising:

multiple cameras of different types simultaneously capturing images of sub-events occurring in a space associated with an event, wherein the multiple cameras of different types are at least two of:

a 360-degree camera centrally positioned to monitor in substantially 360-degrees the space in which the event occurs;

a remote view camera positioned so as to capture a view of event participants in said space associated with said event to be transmitted to a client over said network;

a presenter view camera positioned so as to capture a view of an overview of the space associated with the event wherein a presenter would typically be presenting; and

a whiteboard capture camera positioned so as to capture strokes written on a whiteboard;

a virtual director that automatically determines which view of said multiple cameras of different types to display, wherein said virtual director determines which camera view to display by:

determining if a person is speaking and facing toward a display that displays at least one remote event participant, and if so using a camera view captured by said remote camera to display;

determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and

else, using a camera view captured by said 360-degree camera to display;

a server capable of recording and broadcasting the captured sub-events; and

one or more clients in network connection with said server that view portions of the captured event." (emphasis added)

And,

A system for conducting a distributed meeting, the system comprising:

a 360-degree camera for capturing images of meeting participants in a meeting in substantially 360 degrees about said 360-degree camera;

a whiteboard camera for capturing images of contents written on a whiteboard;

a presenter camera for capturing images of an overview of the meeting room in the area where a presenter would typically be presenting;

a microphone array for capturing the audio of the meeting that is synchronized with one of said images captured by said 360-degree camera, whiteboard camera or presenter camera; and

a virtual director that automatically determines which view of said 360 degree camera, whiteboard camera or presenter camera to display

and switches to the determined view of the associated camera to display a view of one of said different sub-events, wherein said virtual director determines which camera view to display by:

_____ determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and

_____ else, using a camera view captured by said 360-degree camera to display; and

a meeting server for performing processing required to broadcast and record meeting data.” (emphasis added)

And,

“An automated system for capturing and viewing an event having event participants, comprising:

multiple cameras of different types simultaneously capturing images of different sub-events occurring in a space associated with an event;

an event server, that processes in substantially real time said event data;

an event post processor that process said event data only when the event is completed;

a virtual director that automatically determines which of said multiple cameras of different types to display based on the position of a person speaking and the ability to track a person speaking in the captured images and audio signals received and switches between said multiple cameras of different types to display a view of one of said different sub-events; and

at least one event client in connection with said event server wherein said event client allows viewing live events and archived events.” (emphasis added)

And,

“A computer-readable medium having computer-executable instructions for viewing a recorded event, said computer-executable instructions comprising:

simultaneously capturing images of different sub-events by of an event with multiple cameras of different types each capturing a different sub-event;

capturing audio associated with the different sub-events;

automatically selecting which of the captured sub-events to transmit based on the position of a person speaking and the ability to track a person speaking in the captured images of the different sub-events and the captured audio associated with the different sub-events ;
and

transmitting the selected captured sub-events and associated audio from a server to one or more clients in network connection with said server.” (emphasis added)

And,

“A system for conducting a distributed meeting, the system comprising:
a 360-degree camera for capturing images of meeting participants in a meeting room in substantially 360 degrees about said 360-degree camera, wherein said 360-degree camera includes an integrated computer that performs processing required to broadcast said images and associated meeting data; and

a whiteboard camera for capturing images of contents written on a whiteboard;

a presenter view camera for capturing images of an overview of the meeting room in a space where a presenter would typically be presenting; and

a virtual director that automatically determines which view of said 360 degree camera, whiteboard view camera and presenter view camera to display based on determining if a person is speaking and is positioned in a certain manner relative to one of the cameras and the ability to track the person speaking.” (emphasis added)

In contrast, Konopka discloses a video distance learning system including a teaching classroom connected to remote learning classrooms by a fiber-optic communication network. The teaching classroom includes a rear audio/video cabinet housing four video monitors and a camera. The remote classrooms have front cabinets with four monitors and a camera. In a normal operating mode, one of the video monitors will display the teacher, while the other three monitors display classroom images. A rear video camera mounted is focused on the teacher and a front video camera may be focused on the students. The front video cabinet may have a graphics or document camera is also provided on the front video cabinet. The document camera points downward at a light table to image materials such as books, pictures and overhead transparencies. The teacher may switch between the rear camera, the front camera and the document camera. A teacher's work station, may be located at the front of the teaching classroom. A control panel allows the teacher to control all devices located within the room, such as volume, displays, or focus. The work station may also include a personal computer interfacing with the network to schedule classes. The video distance learning system facilitates eye contact between the teacher in a teaching classroom and students in remote classrooms. **Konopka does not, however, teach the applicants' claimed virtual director that automatically determines which view of the multiple cameras of different types to display based on the positioning of a person speaking and**

the ability to track the speaker in images captured by the cameras and the associated audio of the person speaking, and automatically switches between the multiple cameras of different types to display a view of one of the different sub-events.

Tai teaches a technique for automatically selecting a video output from among several video input sources based strictly on audio signals, not positioning of a person speaking in an event. In one method, one or more audio sensors are associated with each video input source. Preferably, an audio sensor is positioned to receive audio signals from directions that receive favorable coverage in the field of view of the associated video source. An autoselector calculates audio scores for each of the audio sensors over short (e.g., 0.5 seconds) examination intervals. At each examination interval, the potential exists for a different video source to be selected as the video output. The autoselector selects a video source based on the audio scores for an examination interval, as well as the recent time-history of video source selection. For instance, if a new video source has just been selected, selection of a different source may be disabled for a few seconds. The time-history is also used to increase the probability that source selection varies in a seemingly-natural manner. (Abstract) However, Tai does not teach does not, however, teach the applicants' claimed

"...a virtual director that automatically determines which view of said multiple cameras of different types to display, wherein said virtual director determines which camera view to display by:
determining if a person is speaking and facing toward a display that displays at least one remote event participant, and if so using a camera view captured by said remote camera to display;
determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and
else, using a camera view captured by said 360-degree camera to display..."

or,

"...a virtual director that automatically determines which view of said 360 degree camera, whiteboard camera or presenter camera to display and switches to the determined view of the associated camera

determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and

else, using a camera view captured by said 360-degree camera to display...”

Or,

“a virtual director that automatically determines which of said multiple cameras of different types to display based on the position of a person speaking and the ability to track a person speaking in the captured images and audio signals received and switches between said multiple cameras of different types to display a view of one of said different sub-events”

Or,

“...automatically selecting which of the captured sub-events to transmit based on the position of a person speaking and the ability to track a person speaking in the captured images of the different sub-events and the captured audio associated with the different sub-events...”

Or,

“a virtual director that automatically determines which view of said 360 degree camera, whiteboard view camera and presenter view camera to display based on determining if a person is speaking and is positioned in a certain manner relative to one of the cameras and the ability to track the person speaking.” (emphasis added)

Granted, The Examiner states that the same virtual director as the applicants claim is taught in Tai in FIGs. 2 and 6, Col. 3, line 26-col. 4, line 8 and Col. 6, line 52-Col. 7, line 17), but these passages make no mention of the positioning of a speaker (person speaking) in images captured by the cameras, nor do these passages mention the ability to track a speaker in the images while determining which camera to use. The Examiner at page 4 of the Final Office Action states that the camera view in Tai is selected based on the use of the audio signals detected from multiple microphones, “and is considered to detect the position of the user based on the audio scores at each microphone...the levels are each microphone are used to determine which microphone is closest to the position of the user.” But this argument totally ignores the applicants claim language regarding determining if a

person is speaking and being able to track the person in images. Determining the position of a microphone by the level of audio is not the same as the applicants claim language of,

“determining if a person is speaking and facing toward a display that displays at least one remote event participant, and if so using a camera view captured by said remote camera to display;

determining if a person is talking and the presenter view camera can track them, and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and

else, using a camera view captured by said 360-degree camera to display...”

Or,

“...a virtual director that automatically determines which view of said 360 degree camera, whiteboard camera or presenter camera to display and switches to the determined view of the associated camera to display a view of one of said different sub-events, wherein said virtual director determines which camera view to display by:

determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and

else, using a camera view captured by said 360-degree camera to display...”

Or,

“a virtual director that automatically determines which of said multiple cameras of different types to display based on the position of a person speaking and the ability to track a person speaking in the captured images and audio signals received and switches between said multiple cameras of different types to display a view of one of said different sub-events”

Or,

“...automatically selecting which of the captured sub-events to transmit based on the position of a person speaking and the ability to track a person speaking in the captured images of the different sub-events and the captured audio associated with the different sub-events...”

Or,

“a virtual director that automatically determines which view of said 360 degree camera, whiteboard view camera and presenter view camera to display based on determining if a person is speaking and is positioned in a certain manner relative to one of the cameras and the ability to track the person speaking.” (emphasis added)

Taylor also does not teach these claimed elements. In Taylor only a far view of the speaking meeting participant and to whom they are speaking is recorded. Most of the people speaking will be captured from behind as is evidenced from the positions of the cameras relative to the majority of the meeting participants (see FIG. 1). No close up frontal views of a speaker can be displayed; no views specifically optimized to be transmitted to a remote participant can be displayed; and no whiteboard camera views can be displayed.

Liu also does not teach the applicants' claimed virtual director as specified in the applicants' claim language.

Since neither Konopka nor Tai nor Taylor nor Liu teach the applicants' claimed virtual director the combination does not teach it. Thus, the applicants have claimed elements not taught in the cited art and which have advantages not recognized therein. Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that the rejected claims are patentable under 35 USC 103 over Konopka in view of Tai and in further view of Taylor and Liu. It is, therefore, respectfully requested that the rejection of Claims 1, 2, 9-12, 14-17, 19-21 and 58-61 be reconsidered based on the novel and non-obvious exemplary claim language:

"...a virtual director that automatically determines which view of said 360 degree camera, whiteboard camera or presenter camera to display and switches to the determined view of the associated camera to display a view of one of said different sub-events, wherein said virtual director determines which camera view to display by:
determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and
else, using a camera view captured by said 360-degree camera to display..."

Or,

"a virtual director that automatically determines which of said multiple cameras of different types to display based on the position of a person speaking and the ability to track a person speaking in the captured images and audio signals received and switches between said multiple cameras of different types to display a view of one of said different sub-events"

Or,

"...automatically selecting which of the captured sub-events to transmit based on the position of a person speaking and the ability to track a person speaking in the captured images of the different sub-events and the captured audio associated with the different sub-events..."

Or,

"a virtual director that automatically determines which view of said 360 degree camera, whiteboard view camera and presenter view camera to display based on determining if a person is speaking and is positioned in a certain manner relative to one of the cameras and the ability to track the person speaking." (emphasis added)

The 35 USC 103 Rejection of 3-6.

Claims 3-6 were rejected under 35 USC 103(a) as being unpatentable over Konopka in view of Tai, in further view of Taylor, in further view of Liu and in further view of Ippolito, U.S. Patent No. 6,072,522 (herein after Ippolito). The Examiner stated that Konopka, Tai, Liu and Taylor teach the applicants' claimed invention, but do not teach cameras placed in a back to back fashion. However, the Examiner further contended that Ippolito teaches this feature, rendering the applicants' claimed invention obvious. The applicants respectfully disagree with this contention of obviousness.

As discussed above, the applicants claim...

"An automated system for capturing and viewing an event having event participants, comprising:

multiple cameras of different types simultaneously capturing images of sub-events occurring in a space associated with an event, wherein the multiple cameras of different types are at least two of:

a 360-degree camera centrally positioned to monitor in substantially 360-degrees the space in which the event occurs;

a remote view camera positioned so as to capture a view of event participants in said space associated with said event to be transmitted to a client over said network;

a presenter view camera positioned so as to capture a view of an overview of the space associated with the event wherein a presenter would typically be presenting; and

a whiteboard capture camera positioned so as to capture strokes written on a whiteboard;

a virtual director that automatically determines which view of said multiple cameras of different types to display, wherein said virtual director determines which camera view to display by:

determining if a person is speaking and facing toward a display that displays at least one remote event participant, and if so using a camera view captured by said remote camera to display;

determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and

else, using a camera view captured by said 360-degree camera to display;

a server capable of recording and broadcasting the captured sub-events; and

one or more clients in network connection with said server that view portions of the captured event.” (emphasis added)

Since neither Konopka, Taylor, Liu, Tai nor Ippolito teach the applicants' claimed **multiple cameras of different types simultaneously capturing images of sub-events** occurring in a space associated with an event; or **“determining if a person is speaking and facing toward a display that displays at least one remote event participant, and if so using a camera view captured by said remote camera to display; determining if a person is talking and the presenter view camera can track them, and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and else, using a camera view captured by said 360-degree camera to display...”**, the combination does not teach it. Thus, the applicants have claimed elements not taught in the cited art and which have advantages not recognized therein. Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that the rejected claims are patentable under 35 USC 103 over Konopka in view of Tai, Liu, Taylor and Ippolito. It is, therefore, respectfully requested that the rejection of Claims 3-6 be reconsidered based on the above quoted claim language.

The 35 USC 103 Rejection of Claim 13.

Claim 13 was rejected under 35 USC 103(a) as being unpatentable over Konopka in view of Tai in view of Taylor in view of Liu and in further view of Rodriguez, Jr. et al., U.S. Patent No. 6,179,426 (herein after Rodriguez). The Examiner stated that Konopka, Tai and Taylor teach the applicants' claimed invention, but do not teach a projector for projecting images on a screen. However, the Examiner further contended that Rodriguez teaches this feature, rendering the applicants' claimed invention obvious. The applicants respectfully disagree with this contention of obviousness.

As discussed above neither Konopka, Liu, Tai nor Taylor teach the applicants' claimed **multiple cameras of different types simultaneously capturing images of sub-events occurring in a space associated with an event or a virtual director that automatically determines which view of said multiple cameras of different types to display, wherein said virtual director determines which camera view to display by: determining if a person is speaking and facing toward a display that displays at least one remote event participant, and if so using a camera view captured by said remote camera to display; determining if a person is talking and the presenter view camera can track them, and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and else, using a camera view captured by said 360-degree camera to display...** Rodrigues also does not teach these claimed features.

Since neither Konopka, Tai, Taylor, Liu nor Rodriguez teaches the applicants' claim limitations cited above, the combination does not teach it. Thus, the applicants have claimed elements not taught in the cited art and which have advantages not recognized therein. Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that the rejected claims are

patentable under 35 USC 103 over Konopka in view of Tai, Taylor, Liu and Rodriguez . It is, therefore, respectfully requested that the rejection of Claim 13 be reconsidered based on the above quoted claim language.

The 35 USC 103 Rejection of Claim 18.

Claim 18 was rejected under 35 USC 103(a) as being unpatentable over Konopka in view of Tai, in view of Taylor in view of Liu and in further view of Tosaya, U.S. Patent No. 6,549,230 (herein after Tosaya). The Examiner stated that Konopka, Tai, Liu and Taylor teach the applicants' claimed invention, but do not teach an event kiosk that is located on one of multiple cameras. However, the Examiner further contended that Tosaya teaches this feature, rendering the applicants' claimed invention obvious. The applicants respectfully disagree with this contention of obviousness.

As discussed previously, Konapka, Tai, Liu and Taylor do not teach the applicants' claimed virtual director. Tosaya also does not teach the applicants' claimed virtual director. Since neither Konopka nor Tai nor Taylor nor Tosaya teaches the applicants' claimed virtual director, the combination does not teach it. Thus, the applicants have claimed elements not taught in the cited art and which have advantages not recognized therein. Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that the rejected claims are patentable under 35 USC 103 over Konopka in view of Tai in view of Liu and in further view of Taylor. It is, therefore, respectfully requested that the rejection of Claim 18 be reconsidered based on the novel and non-obvious exemplary claim language:

"...a virtual director that automatically determines which view of said multiple cameras of different types to display, wherein said virtual director determines which camera view to display by:
determining if a person is speaking and facing toward a display that displays at least one remote event participant, and if so
using a camera view captured by said remote camera to display;
determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the

360-degree camera, and if so using a camera view captured by said presenter view camera for display; and
else, using a camera view captured by said 360-degree camera to display...

The 35 USC 103 Rejection of Claims 51-54.

Claims 51-54 were rejected under 35 USC 103(a) as being unpatentable over Konopka, in view of Tai, Taylor, Ippolito and in further view of Rodriguez, Jr. et al., U.S. Patent No. 6,179,426 (herein after Rodriguez). The Examiner stated that Konopka, Tai, Taylor and Ippolito teach the applicants' claimed invention, but do not teach the same types of cameras, in particular a whiteboard camera. However, the Examiner further contended that Rodriguez teaches this feature, rendering the applicants' claimed invention obvious. The applicants respectfully disagree with this contention of obviousness.

The applicants claim

"A system for conducting a distributed meeting, the system comprising:

a 360-degree camera for capturing images of meeting participants in a meeting in substantially 360 degrees about said 360-degree camera;

a whiteboard camera for capturing images of contents written on a whiteboard;

a presenter camera for capturing images of an overview of the meeting room in the area where a presenter would typically be presenting;

a microphone array for capturing the audio of the meeting that is synchronized with one of said images captured by said 360-degree camera, whiteboard camera or presenter camera; and

a virtual director that automatically determines which view of said 360 degree camera, whiteboard camera or presenter camera to display and switches to the determined view of the associated camera to display a view of one of said different sub-events, wherein said virtual director determines which camera view to display by:

determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and

else, using a camera view captured by said 360-degree camera to display; and

a meeting server for performing processing required to broadcast and record meeting data."

As discussed above neither Konopka nor Taylor nor Ippolito nor Rodriques teach the applicants claim language. More specifically, the cited art does not teach a virtual director that automatically determines which view of said 360 degree camera, whiteboard camera or presenter camera to display and switches to the determined view of the associated camera to display a view of one of said different sub-events, wherein said virtual director determines which camera view to display by: determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and else, using a camera view captured by said 360-degree camera to display.

Since neither Konopka, Tai, Taylor, Ippolito nor Rodriguez teaches the applicants' claimed multiple cameras of different types simultaneously capturing images of sub-events occurring in a space associated with an event with a virtual director that automatically determines which view of said 360 degree camera, whiteboard camera or presenter camera to display and switches to the determined view of the associated camera to display a view of one of said different sub-events, wherein said virtual director determines which camera view to display by: determining if a person is talking and the presenter view camera can track them and provide a higher resolution image than the 360-degree camera, and if so using a camera view captured by said presenter view camera for display; and else, using a camera view captured by said 360-degree camera to display; the combination does not teach it. Thus, the applicants have claimed elements not taught in the cited art and which have advantages not recognized therein. Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that the rejected claims are patentable under 35 USC 103 over Konopka in view of Tai, Taylor, Ippolito and Rodriguez . It is, therefore, respectfully requested that the rejection of Claims 51-54 be reconsidered based on the above quoted claim language.

The 35 USC 103 Rejection of 55-77.

Claims 55-57 were rejected under 35 USC 103(a) as being unpatentable over Konopka et al, U.S. Patent No. 5,850,250, herein after referred to as Konopka, in view of Tai et al. (U.S. Patent No. 6,577,333) (herein after referred to as Tai) and in further view of Taylor, U.S. Patent No. 7,113,201(herein after Taylor). The Office Action stated that Konopka and Taylor teach the applicants' claimed invention, but do not teach the applicants' claimed virtual director or that the server also captures the sub-events in addition to broadcasting the captured sub-events. However, the Examiner further contended that Tai teaches this feature, rendering the applicants' claimed invention obvious. The applicants respectfully disagree this contention of obviousness. The applicants claim...

"An automated system for capturing and viewing an event having event participants, comprising:

multiple cameras of different types simultaneously capturing images of different sub-events occurring in a space associated with an event;

an event server, that processes in substantially real time said event data;

an event post processor that process said event data only when the event is completed;

a virtual director that automatically determines which of said multiple cameras of different types to display based on the position of a person speaking and the ability to track a person speaking in the captured images and audio signals received and switches between said multiple cameras of different types to display a view of one of said different sub-events; and

at least one event client in connection with said event server wherein said event client allows viewing live events and archived events."

As discussed previously, neither Konopka nor Tai nor Taylor teach the applicants' claimed virtual director, so the combination does not teach it. Thus, the applicants have claimed elements not taught in the cited art and which have advantages not recognized therein. Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that the rejected claims are patentable under 35 USC 103 over Konopka in view of Tai and in further view of Taylor. It is, therefore, respectfully requested that the rejection of Claims 55-57 reconsidered based on the novel and non-obvious exemplary claim language:

“...a virtual director that automatically determines which of said multiple cameras of different types to display based on the position of a person speaking and the ability to track a person speaking in the captured images and audio signals received and switches between said multiple cameras of different types to display a view of one of said different sub-events;”

The 35 USC 103 Rejection of Claims 69, 71 and 72

Claims 69, 71 and 72 were rejected under 35 USC 103(a) as being unpatentable over Konopka, in view of Taylor, in view of Ippolito and in view of Rodriguez in further view of Tosaya. The Examiner stated that Konopka, Taylor, Ippolito and Rodriguez teach the applicants' claimed invention, but do not teach a 360-degree camera that includes an integrated computer that performs processing required to broadcast images and associated meeting data. However, the Examiner further contended that Tosaya teaches this feature, rendering the applicants' claimed invention obvious. The applicants respectfully disagree with this contention of obviousness.

The applicants claim,

“A system for conducting a distributed meeting, the system comprising:
a 360-degree camera for capturing images of meeting participants in a meeting room in substantially 360 degrees about said 360-degree camera, wherein said 360-degree camera includes an integrated computer that performs processing required to broadcast said images and associated meeting data; and

a whiteboard camera for capturing images of contents written on a whiteboard;

a presenter view camera for capturing images of an overview of the meeting room in a space where a presenter would typically be presenting; and

a virtual director that automatically determines which view of said 360 degree camera, whiteboard view camera and presenter view camera to display based on determining if a person is speaking and is positioned in a certain manner relative to one of the cameras and the ability to track the person speaking

As discussed above neither Konopka nor Taylor nor Ippolito nor Rodriguez teach the applicants' claimed multiple cameras of different types simultaneously capturing images of sub-events occurring in a space associated with an event where a virtual director that automatically determines which view of the multiple cameras of different types to display based on the positioning of a person speaking and the ability to track the speaker in images captured by the cameras and the associated audio of the person speaking, and automatically switches between the multiple cameras of different types to display a view of one of the different sub-events."


Tosaya teaches a portable video conference module supporting a network-based video conference comprising a processor, a video camera, and audio input device and several interfaces coupled to the processor. The processor includes a local instruction processor accessing a local non-volatile memory. The interfaces include a wireless data capture interface, a video display interface, an audio output interface and a network interface. But Tosaya does not teach the applicants' claimed multiple cameras of different types simultaneously capturing images of sub-events occurring in a space associated with an event where a virtual director automatically determines which of the multiple cameras of different types to display based on the positioning and tracking of a speaker, and switches between the multiple cameras of different types to display a view of one of the different sub-events. Tosaya also does not teach these claimed features.

Since neither Konopka, Tai, Taylor, Ippolito nor Tosaya teaches the applicants' claimed multiple cameras of different types simultaneously capturing images of sub-events occurring in a space associated with an event where a virtual director automatically determines which of the multiple cameras of different types to display based on the positioning and tracking of a speaker, and switches between the multiple cameras of different types to display a view of one of the different sub-events, the combination does not teach it. Thus, the applicants have claimed elements not taught in the cited art and which have advantages not recognized therein. Accordingly, no prima facie case of

obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that the rejected claims are patentable under 35 USC 103 over Konopka, Tai, Taylor, Ippolito and Rodriguez, in view of Tosaya. It is, therefore, respectfully requested that the rejection of Claims 69, 71 and 72 be reconsidered based on the above-quoted claim language.

In summary, it is believed that the claims 1, 3-6, 9-21, 51-61 and 69, 71-72 are in condition for allowance. Allowance of these claims at an early date is courteously solicited.

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